

'Repertoire'). Underside of fore limbs reddish (dead leaf no. 1, 'Repertoire'), richer in colour towards extremities (dead leaf no. 3, 'Repertoire'). Under surface of hind limbs very similar in colour to posterior part of belly, rather greyer and darker towards the feet. Tail brownish black (reddish black no. 2, 'Repertoire').

Dimensions of the type (measured in skin):—

Head and body 760 mm.; tail 650; hind foot 150; ear 30.

Skull missing.

*Hab.* 90 kilometres west of the south end of Lake Albert Edward.

*Type.* Adult male. Original number 96. Collected by R. Grauer.

The red-coloured back and dark brownish hind-quarters, together with the black tail and buffy under surface of the body, indicate that this form must be considered quite distinct from *C. graueri*. From *C. foai* it is easily distinguished by its bright red back and head, and from *C. nigrimanus*, Trouessart, by its red hands, dark brown hind-quarters, and black tail.

It gives me great pleasure to name this handsome species after Dr. D. G. Elliot, whose intimate knowledge of this group of monkeys has been of the greatest service to me in distinguishing these two forms.

#### LV.—*Four new African Squirrels.*

By OLDFIELD THOMAS.

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##### *Sciurus ruwenzorii vulcanius*, subsp. n.

Similar in essential characters to true *ruwenzorii*, but the body browner and the extremities more rufous.

General colour above bistre-brown, finely speckled with pale buffy. Muzzle tawny ochraceous. Under surface with the characteristic median white streak of *ruwenzorii*, the sides of the belly washed with ochraceous instead of yellow. Inner sides of limbs ochraceous buff. Forearms (especially along their outer edge), hands, and feet rich tawny ochraceous. Tail with the light rings on the hairs ochraceous, passing

terminally into tawny ochraceous, instead of yellow as in *ruwenzorii*.

Skull and dentition as in true *ruwenzorii*.

Dimensions of the type (measured in skin) :—

Head and body 260 mm. ; tail 260 ; hind foot 54 ; ear 19.

Skull : basal length (c.) 44 ; front of  $p^4$  to back of  $m^3$  8·7.

*Hab.* Vulcan Forest north of Lake Kivu, between Bajaka and Kassongo.

*Type.* Adult female. Original number 42. Collected by R. Grauer. Two specimens.

This subspecies is readily distinguishable from the Ruwenzori squirrel by its more rufous limbs and darker and less olivaceous body-colour, in these respects therefore even more like *Heliosciurus rufobrachiatus* than is the typical form.

*Funisciurus carruthersi tanganyikæ*, subsp. n.

General colour rather darker and more suffused with ochraceous than in the typical greenish *carruthersi* of Ruwenzori. Forearms and hind legs strongly suffused with ochraceous, and the feet also but less strongly. Tail-hairs washed terminally with whitish, far lighter than their basal rings, while in *carruthersi* both proximal and terminal rings are of the same yellowish colour.

Skull and dentition as in *carruthersi*.

Dimensions of the type (measured in skin) :—

Head and body 220 mm. ; tail 200 ; hind foot 52 ; ear 19.

Front of  $p^4$  to back of  $m^3$  8·7.

*Hab.* Usumbura, N. end of L. Tanganyika.

*Type.* Adult male. Original number "T.S. 3." Collected by R. Grauer. Two specimens.

This squirrel differs from the Ruwenzori *carruthersi* in very much the same way as *S. ruwenzori vulcanius* does from its type form, although not so strongly. A darkening of the body-colour and a reddening of the extremities are the distinguishing features of each of these two new subspecies.

*Funisciurus mandingo nigreusis*, subsp. n.

Very similar to the Gambian *F. mandingo*, Thos.\*, with which it shares the general pale colour, reduction of rufous

\* Ann. & Mag. Nat. Hist. (7) xi. p. 79 (1903).

on sides, limbs, and feet, and other characters, but distinguished as follows:—General colour above, especially on head, slightly darker. Light lateral lines better marked, cream-coloured. Area behind ears with a much more conspicuous white patch, that of *mandingo* being small and little obvious. Under surface white, not sharply defined laterally, the hairs light to their bases; in *mandingo* all the hairs have slaty bases.

No external measurements available.

Skull: greatest length 45 mm.; condylo-basal length 40; greatest breadth 26.5; front of  $p^4$  to back of  $m^3$  7.6.

*Hab.* Abutschi, Lower Niger, about 150 miles from mouth.

*Type.* Adult male. B.M. no. 2. 11. 10. 11. Collected by Mr. A. J. Braham.

This squirrel is curiously more like the Gambian *mandingo* than the other Nigerian members of the group. It may, however, be readily distinguished by the white instead of grey-based hairs of its under surface.

*Funisciurus leucostigma talboti*, subsp. n.

General appearance as in true *leucostigma*, though with many differences in detail. Back of the same grizzled olivaceous tone, but light bands white instead of buffy or ochraceous, and succeeded externally by a line less distinctly blackish. Rufous of head and limbs slightly duller than in *leucostigma*, and that of flanks very much duller, approaching tawny olive of Ridgway, though darker. On the under surface the colour of the flanks encroaches on each side, nearly meeting in the middle line of the belly, and at the same time becoming more ochraceous; chin, chest, and groins dull whitish, the majority of the hairs with slaty bases; in *leucostigma* the under surface is completely white, the hairs white to their bases. Tail with its median area below of the same dull grizzled rufous that is found in the Sierra Leone form, *leonis*\*, quite different from the bright uniform rufous occurring in *leucostigma*.

Skull of about the same size as in *leucostigma*; upper profile of brain-case much bowed.

Dimensions of the type (measured in the flesh):—

Head and body 185 mm.; tail 150 †; hind foot 44; ear 15.

Skull: greatest length 48; condylo-basal length 42; greatest breadth 26.8; front of  $p^4$  to back of  $m^3$  8.4.

\* Thos. Ann. & Mag. Nat. Hist. (7) xv. p. 79 (1905).

† The tail is now 180 mm. in length, and the number above given is perhaps a *lapsus calami*.

*Hab.* Oban, Eastern Southern Nigeria. Alt. 600'.

*Type.* Adult male. Original number 7. Collected 13th August, 1909, by Mr. P. A. Talbot.

The brownish or ochraceous belly of this form will readily distinguish it from its ally the white-bellied *F. leucostigma*, as also will the dull-coloured median area of its tail.

I have provisionally placed *nigrens* as a subspecies of *mandingo*, and *talboti* of *leucostigma*, but it is quite impossible until immensely larger series are available to say how far these allocations are likely to prove correct. It is a compromise between the old idea that all members of such a group as the present might be considered to be subspecies of the parent form, and the practice of some of the American zoologists, who appear to restrict the use of trinomials to such forms as no one but the author can distinguish, and he only in certain lights.

LVI.—*On the Phylogeny of the Amphidiscophora.*

By R. KIRKPATRICK.

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THE division by F. E. Schulze of the order Hexactinellida into the two suborders Amphidiscophora and Hexasterophora was a great step in advance of previous classifications. There are no known transitions between the two great groups.

In several respects the Amphidiscophora have remained in a more primitive condition. There is no evidence to show, however, that one group has arisen from the other, and consequently a bifurcation of the main stem is assumed. The primary and essential character of the Amphidiscophora is the presence of amphidisks; what appears to be a second character is the existence of genuine microhexactins (figs. 4, 5), which do not exist, so far as I have observed, in the Hexasterophora. (The small hexactins forming part of the framework in Dictyonine sponges are not here regarded as microhexactins.) All so-called "derived hexactins" in Hexasterophora are hexasters with a single end ray to each main ray, and have the axial canals terminating abruptly not far from the centre of the spicule (fig. 3)\*.

\* This is one reason among others for avoiding the use of the "actin" terminology in describing these spicules, and for using the "aster" suffix. In the Report on the 'Discovery' Hexactinellida I have proposed the term *mo. ohexaster* (*i. e.* monoxyhexaster, monodi-cohexaster).